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AUTHOR	Davidoff, Stephen H.; Fishman, Roger J.
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ABSTRACT

The Chapter 1 Evaluation and Reporting System (CHIERS) is an annually updated system for gathering and reporting student information regarding the Education Consolidation and Improvement Act Chapter 1 program in the Philadelphia (Pennsylvania) School District. Data elements included in the CHIERS are school location, achievement test scores, and Chapter 1 services received. This report covers the 1987-88 school year. Sources of information included the Pupil Directory Information File and the City-Wide Testing Program computer files. Data confirmation lists, distributed to project staff, provided information on which students are being served. Additional data elements were collected via the Data Confirmation Lists to assess factors such as attendance, informal reading inventory scores, and project-specific mathematics test results. Focus was on reading and mathematics achievement and factors that affect these indices. Across the projects that participated in CHIERS, 124,467 services were provided, and about 59,000 individuals were served in reading and mathematics projects. It appears that those projects that provided very intensive services tended to be more effective than those that provided less concentrated services. Prior CHIERS updates indicated that there were no significant differences across projects. Data are presented via five tables and four graphs. (TJH)

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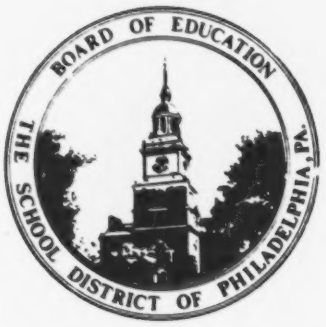
CHAPTER I

EVALUATION AND REPORTING SYSTEM

1988 UPDATE

TECHNICAL REPORT



AUGUST 1988

Report No. 8903

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FEDERAL EVALUATION RESOURCE SERVICES

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Research and Evaluation

Report Prepared By

Dr. Stephen H. Davidoff, Director
Federal Evaluation Resource Services

Dr. Roger J. Fishman, Research Associate
Administrative and Survey Research

CHAPTER 1 EVALUATION AND REPORTING SYSTEM (CHIERS)
1988 UPDATE

Introduction

The Chapter 1 Evaluation and Reporting System (CHIERS) is an annually updated system for gathering and reporting pupil information regarding the ECIA Chapter 1 program in the Philadelphia School District. The data elements that are included in CHIERS are: school location, achievement test scores, and Chapter 1 services received.

The Data

School location information was collected through the Pupil Directory Information File three times (fall, winter, and spring) during the school year in order to keep track of pupils as they moved from school to school. Test scores were obtained from the City-Wide Testing Program computer files that were developed as a result of testing during the spring of 1987 and 1988.

During the spring of each year, Data Confirmation Lists are distributed to project staff, who indicate which students are being served in their Chapter 1 projects. Projects that make use of the computerized high school rostering system do not take part in this process because Chapter 1 service information on these students can be obtained through the centralized Roster File.

Additional data elements also are collected via the Data Confirmation Lists in order to examine project-specific questions. Attendance, informal reading inventory scores, and project specific mathematics test results are examples of data which are collected through CHIERS, but reported within the individual project evaluations.

The Analysis

Students who received Chapter 1 service during the 1987-1988 school year are included in the first three tables of this report. These tables describe the served group in terms of project participation, service area (reading or mathematics), and mobility. Those students who also had complete test information were included in the achievement analyses that are described in the remainder of the report.

When Chapter 1 evaluation systems were first proposed by the federal government, an evaluation model was prescribed as well. This model assumes that, in the absence of an educational intervention beyond the regular school program, children will maintain their Normal Curve Equivalent scores (NCE's are normalized National Percentile Ranks) from year to year. Thus, the evidence of a Chapter 1 effect above and beyond the effect of the regular school program is, by definition, a pretest to posttest improvement in the NCE. The percentage of students who meet this criterion is reported on a grade by grade basis for each project and for the Chapter 1 served group as a whole; and the improvement in the mean NCE is presented for each of the groups.

In summary, this model seeks to document an effect which is over and above what one would expect based on historical performance. While this might be true under ideal conditions, the reality of field evaluation prevents attributing the results to Chapter 1 alone (i.e., causal effect). Thus, overall School District improvement and/or its interaction with supplementary programs also serve to explain achievement.

The grade levels of the students being served and their initial achievement levels must be taken into consideration when examining achievement. Otherwise, comparisons between projects which serve dissimilar groups may be misleading. Totals are not presented because the variation in the grades served by the projects is great. The ordering of projects within tables and charts has been done to facilitate appropriate comparisons on a grade by grade basis.

Descriptive Information

Table 1 lists the various Chapter 1 projects, their service areas, and the number of students who were reported as participating in each. Students who received service from more than one project are counted in each of those projects. Across the projects that participate in CHIERS, 124,467 services were provided. As may be seen in Figure 1, nearly 59,000 individuals were served in reading or mathematics projects. Thirty-six point seven percent received both reading and mathematics services, 55.6 percent received only reading service, and 7.6 percent received mathematics service only.

Mobility of the student population has often been cited as a reason for poor performance. This issue was examined by determining whether students were in different schools at the three different times during the school year that school location information was collected. A stability index was calculated by determining the proportion of pupils who did not change schools. This measure differs from the process usually used to calculate mobility - dividing the total number of admissions to and dismissals from a school by the enrollment on opening day. It is clear from the information in Figure 2 that the students who received Chapter 1 services were nearly as stable as the larger school district population (92.1% vs. 94.5%). These figures indicate that, because they have not move from school to school, most children served by Chapter 1 are likely to receive consistent services throughout the school year.

Achievement Information

Across grade, baseline achievement information for reading and mathematics may be found in Table 2. The information consists of the typical grade range for each project, the number of students with both pretest and posttest scores, and the NCE's associated with the mean pretest scores. Grade by grade pretest-posttest information may be found in Tables 3a and 3b, for reading, and in Tables 4a and 4b, for mathematics.

Reading achievement. Tables 3a and 3b contain the detailed, grade by grade information for the Chapter 1 reading projects. These tables allow the reader to compare project performances on a grade by grade basis using either criterion. Table 3a comprises the grade 1-6 elementary school projects, while Table 3b includes information for projects that serve students in grades 7 through 12. It should be noted that the percentages and NCE gains vary considerably from grade to grade. Because of this variation, which may be related to characteristics of the test, achievement comparisons should be done within a grade rather than across grades. It is interesting to note that there are only minor differences among the various projects in terms of both criteria, the percentage of students with higher posttest NCEs and the change in the NCEs of the average. For reading, the percentages of students who achieved higher posttest NCE's showed little variation about the average percentage. Similarly there were only slight differences in the mean NCE gains. Exceptions to this finding were that Project Success: Best Elements (except grade 3), Satellite Centers A, Satellite Centers B, Satellite Centers D (grades 3-6), Benchmark (grades 4-6), and Schoolwide Projects (grades 7-8)* had results that were noticeably above the averages (See Tables 3a, 3b and Figure 3).

Mathematics achievement. Mathematics achievement data are presented in Table 4a (grades 1-6) and Table 4b (grades 7-11). An examination of these tables shows that the EMRT, Option 4 (elementary level) Project Success: Best Elements (except grade 3) and Benchmark projects were consistently superior to the other Chapter 1 projects that operated at the same grade level in terms of both the percentage of pupils who improved from pretest to posttest and the change in NCE from pretest to posttest. In addition, these were the only projects that were consistently above the Chapter 1 averages for both criteria (see Figure 4).

Conclusions

By examining the projects' relative performance on a grade by grade basis, it appeared that those projects that provided very intensive services tended to be more effective than those that provided less concentrated services. Option 4 (mathematics-elementary level), EMRT, Satellite Centers A, Satellite Centers B, Satellite Centers D, and Benchmark are projects that were judged to be more effective. Each of these provides a pupil:adult ratio of 20 or less.

The discovery that some projects are more effective than others is relatively new for the Chapter 1 Evaluation and Reporting System and was first reported in 1986-1987. Prior CHIERS updates have indicated that there were no important differences among projects. Thus, the information presented here should be considered as confirmation of the 1986-1987 school year findings for Benchmark (reading and mathematics), Elementary Mathematics Resource Teachers, and Option 4 Mathematics. Findings for Option 4 Reading and the Junior High/Middle School Mathematics Project were not replicated (see Table 5).

*NOTE: The Schoolwide Project finding is restricted to only one site which provides service to grades 7 and 8.

TABLE 1

CHAPTER 1 SERVICE COUNTS 1987-1988

Project	Count	Area
1. District Reading	37,247	Reading
2. ESOL Option 4	2,430	Reading
3. ESOL (Other)	418	Reading
4. Option 4 Reading	3,966	Reading
5. Option 4 Mathematics	5,716	Mathematics
6. Schoolwide Projects	6,133	Both
7. Satellite C	614	Reading
8. Benchmark	802	Both
9. Project Success - Bilingual Options	278	Both
10. Project Success - Best Elements	4,108	Both
11. EWA	617	Reading
12. EMRT	6,936	Mathematics
13. Jr./Middle Mathematics	1,198	Mathematics
14. Mathematics Specialists	48	Mathematics
15. Mathematics Skill Centers	171	Mathematics
16. Mission: Excellence Reading	1,238	Reading
17. Mission: Excellence Mathematics	840	Mathematics
18. School Community Coordinator	49,938	N/A
19. Satellite A (Botel)	164	Reading
20. Satellite B (HILS)	346	Reading
21. Satellite D (Prescription Labs)	960	Reading
22. Prescription Labs - Mathematics	299	Mathematics
Total Services	124,467	

TABLE 2

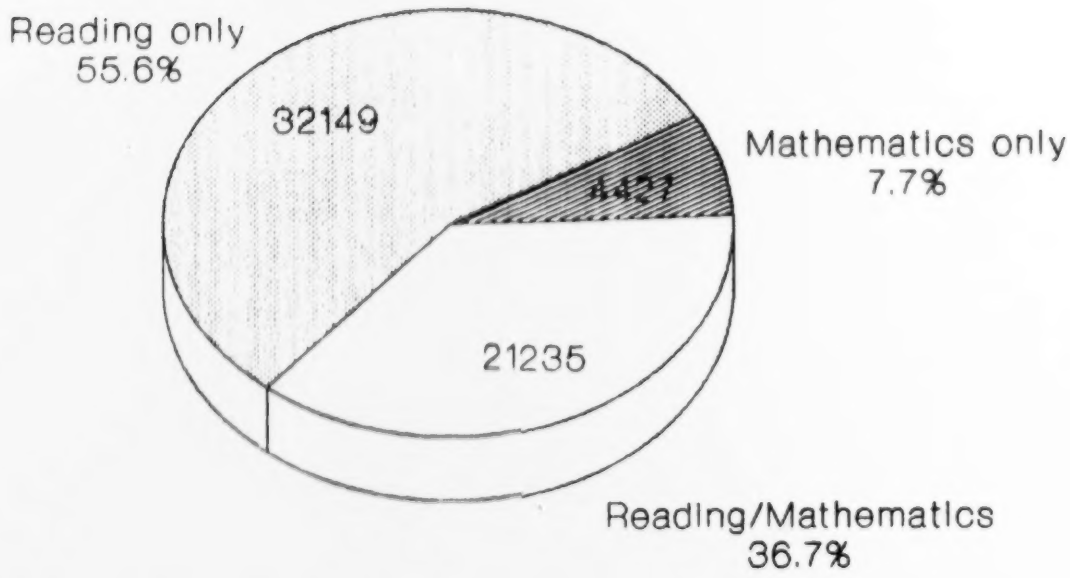
MEAN PRETEST SCORES, GRADE LEVELS, AND NUMBER OF STUDENTS IN THE ANALYSIS

Project	Grade Range	Reading Data Number	Reading Data NCE	Mathematics Data Number	Mathematics Data NCE
Comp. Reading	1-12	28,315	37.35		
ESOL OPTION 4	1-10	1,165	22.22		
Other ESOL	1-3	203			
Option 4	1-11	3,075	34.30	3,458	35.15
Schoolwide Projects	1-8	3,960	39.24	3,924	47.55
Benchmark	4-6	714	31.95	707	31.79
Bilingual Options	1-3	196	24.35	180	27.20
Best Elements	1-4	3,063	29.89	3,050	34.77
EMRT	1-8			5,808	31.50
Junior/Middle	6-9			723	36.78
High School Math Specialists	9-11			*	*
Mission: Excellence	7-12	515	29.59	257	36.97
Model A: Botel Milestone	4-6	118	34.16		
Model B: High Intensity	4-6	280	37.20		
Model C: Reading Skill Center	3-6	521	32.90		
Model D: Prescription Learning	3-9	802	33.92	74	37.20

*Insufficient data to conduct analysis

Individual Chapter 1 Services
According to Area of Service

Figure 1



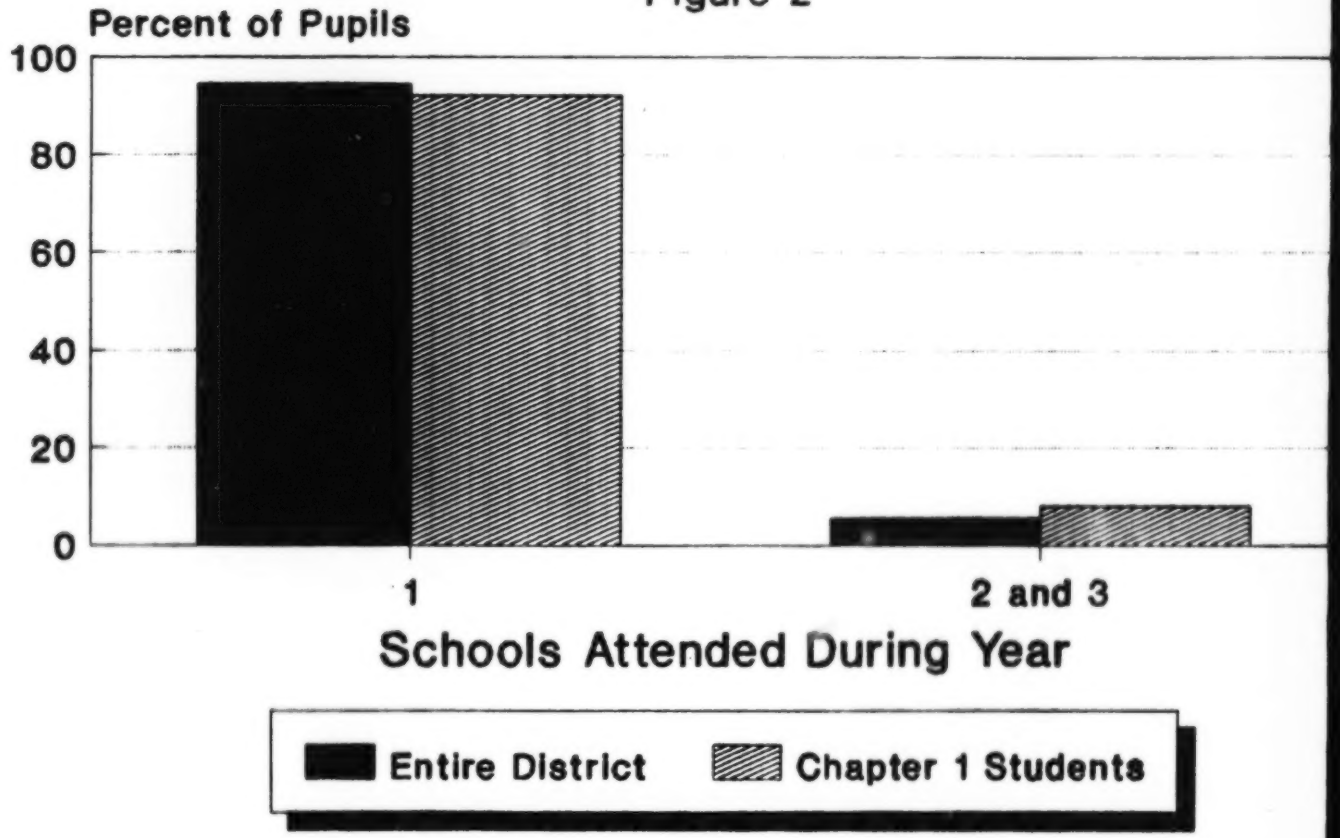
Chapter 1 Evaluation & Reporting System

Unduplicated count 1987 - 1988.

Pupil Stability 1987 - 1988*

Districtwide vs. Chapter 1

Figure 2



* Stabiliy = not changing school.

Table 3a

A Comparison of Reading Projects' Achievement in Grades 1 - 6

Project	Criterion	Grade 1	2	3	4	5	6
ESOL OPTION 4	% Greater	56.49	40.36	49.62	66.35	64.00	33.33
OTHER ESOL SERVICE	% Greater	29.50	40.67	45.83			
PROJECT SUCCESS: BILINGUAL OPTIONS	% Greater	66.32	35.71	53.57			
DISTRICT READING PROJECT	% Greater	56.72	39.81	60.14	54.54	54.32	43.09
OPTION 4	% Greater	44.44	44.40	58.63	63.57	53.96	41.85
SCHOOLWIDE PROJECTS	% Greater	53.26	33.83	56.93	43.35	56.15	42.98
PROJECT SUCCESS: BEST ELEMENTS	% Greater	63.12	43.42	59.12	67.10		
SATELLITE CENTER A	% Greater				75.55	68.88	46.42
SATELLITE CENTER B	% Greater				64.04	70.76	46.82
SATELLITE CENTER C	% Greater			62.19	59.62	66.66	33.62
SATELLITE CENTER D	% Greater			65.73	72.72	69.23	49.58
BENCHMARK	% Greater				80.95	65.97	47.84
ALL READING PROJECTS COMBINED	% Greater	56.95	39.92	59.56	55.33	55.48	43.04
ESOL OPTION 4	Change in NCE	3.71	-0.11	3.85	5.99	1.92	-6.68
OTHER ESOL SERVICE	Change in NCE	-8.20	1.19	-0.08			
PROJECT SUCCESS: BILINGUAL OPTIONS	Change in NCE	10.17	-2.29	1.28			
DISTRICT READING PROJECT	Change in NCE	3.70	-3.76	5.54	1.29	1.25	-1.38
OPTION 4	Change in NCE	-2.05	-1.25	4.69	4.40	0.15	-0.69
SCHOOLWIDE PROJECTS	Change in NCE	2.54	-7.27	4.37	-2.36	1.65	-1.66
PROJECT SUCCESS: BEST ELEMENTS	Change in NCE	6.82	-0.39	5.06	6.82		
SATELLITE CENTER A	Change in NCE				5.94	3.71	-3.58
SATELLITE CENTER B	Change in NCE				5.67	3.14	0.04
SATELLITE CENTER C	Change in NCE			4.93	5.00	4.11	-3.01
SATELLITE CENTER D	Change in NCE			6.91	5.91	5.28	0.20
BENCHMARK	Change in NCE				8.58	5.08	0.15
ALL READING PROJECTS COMBINED	Change in NCE	3.91	-3.56	5.34	1.66	1.42	-1.35

N.B., ESOL Option4, Other Esol Service, and Project Success: Bilingual Options are not included in the analysis of project effects because they serve a specialized population.

Table 3b

A Comparison of Reading Projects' Achievement in Grades 7 - 12

Project	Criterion	Grade 7	8	9	10	11	12
ESOL OPTION 4	% Greater	61.90	34.88	14.28	28.07		
SCHOOLWIDE PROJECTS	% Greater	65.38	62.50				
SATELLITE CENTER D	% Greater	56.25	59.57	43.75			
DISTRICT READING PROJECT	% Greater	57.41	52.40	48.30	52.04	46.11	34.05
OPTION 4	% Greater	60.86	47.74	50.80	41.79	33.66	
MISSION: EXCELLENCE	% Greater	54.16	49.01	51.42	42.98	37.14	34.09
ALL READING PROJECTS COMBINED	% Greater	57.55	52.22	46.19	45.34	41.44	35.23
ESOL OPTION 4	Change in NCE	5.54	-1.93	-8.31	-2.42		
SCHOOLWIDE PROJECTS	Change in NCE	4.66	3.97				
SATELLITE CENTER D	Change in NCE	3.13	2.75	-0.44			
DISTRICT READING PROJECT	Change in NCE	2.71	1.42	0.50	1.28	-0.15	-4.79
OPTION 4	Change in NCE	1.94	-1.46	-0.26	-1.56	-3.96	
MISSION: EXCELLENCE	Change in NCE	1.02	0.47	1.08	0.69	-4.70	-4.60
ALL READING PROJECTS COMBINED	Change in NCE	2.69	1.32	-0.22	0.16	-1.89	-4.59

Table 4a

A Comparison of Mathematics Projects' Achievement in Grades 1 - 6

Project	Criterion	Grade 1	2	3	4	5	6
PROJECT SUCCESS: BILINGUAL OPTIONS	% Greater	80.41	52.63	57.69			
PROJECT SUCCESS: BEST ELEMENTS	% Greater	71.87	61.09	53.97	60.65		
SCHOOLWIDE PROJECTS	% Greater	54.25	48.53	40.25	44.75	52.47	64.64
OPTION 4 MATHEMATICS	% Greater	100.00	60.25	60.37	66.84	61.71	76.26
EMRT	% Greater	74.68	69.45	67.73	63.12	64.10	77.60
JUNIOR/MIDDLE MATHEMATICS	% Greater						74.07
BENCHMARK	% Greater				69.17	69.06	81.14
PRESCRIPTION LABS	% Greater						
ALL MATHEMATICS SERVICES	% Greater	65.84	58.82	56.59	59.22	61.87	74.38
PROJECT SUCCESS: BILINGUAL OPTIONS	Change in NCE	22.94	3.32	1.97			
PROJECT SUCCESS: BEST ELEMENTS	Change in NCE	15.54	8.82	1.28	6.71		
SCHOOLWIDE PROJECTS	Change in NCE	5.20	-0.37	-5.23	-1.55	-0.88	8.53
OPTION 4 MATHEMATICS	Change in NCE	50.63	12.40	4.81	10.68	7.83	17.40
EMRT	Change in NCE	17.56	13.05	8.23	8.76	8.14	16.90
JUNIOR/MIDDLE MATHEMATICS	Change in NCE						10.60
BENCHMARK	Change in NCE				15.77	12.59	20.80
PRESCRIPTION LABS	Change in NCE						
ALL MATHEMATICS SERVICES	Change in NCE	12.38	6.68	2.73	6.76	6.80	15.21

Table 4b

A Comparison of Mathematics Projects' Achievement in Grades 7 - 11

Project	Criterion	Grade 7	8	9	10	11	12
SCHOOLWIDE PROJECTS	% Greater	55.76	23.8				
EMRT	% Greater	63.15	50.00				
JUNIOR/MIDDLE MATHEMATICS	% Greater	50.14	43.25	35.36			
10TH GRADE SPECIALIST	% Greater						
OPTION 4 MATHEMATICS	% Greater	50.75	46.83	40.05	59.37	68.42	
MISSION: EXCELLENCE	% Greater	39.28	47.61	44.56	74.13	62.50	
ALL MATHEMATICS SERVICES	% Greater	51.60	45.00	40.49	62.03	66.66	
SCHOOLWIDE PROJECTS	Change in NCE	3.48	-5.90				
EMRT	Change in NCE	4.33	1.69				
JUNIOR/MIDDLE MATHEMATICS	Change in NCE	1.47	-1.41	-0.39			
10TH GRADE SPECIALIST	Change in NCE						
OPTION 4 MATHEMATICS	Change in NCE	-0.34	-1.73	-1.87	4.55	4.53	
MISSION: EXCELLENCE	Change in NCE	-4.90	-2.00	-1.53	8.32	2.06	
ALL MATHEMATICS SERVICES	Change in NCE	0.62	-1.51	-1.54	5.21	3.79	

Reading Achievement in Selected Chapter 1 Projects 1987-88

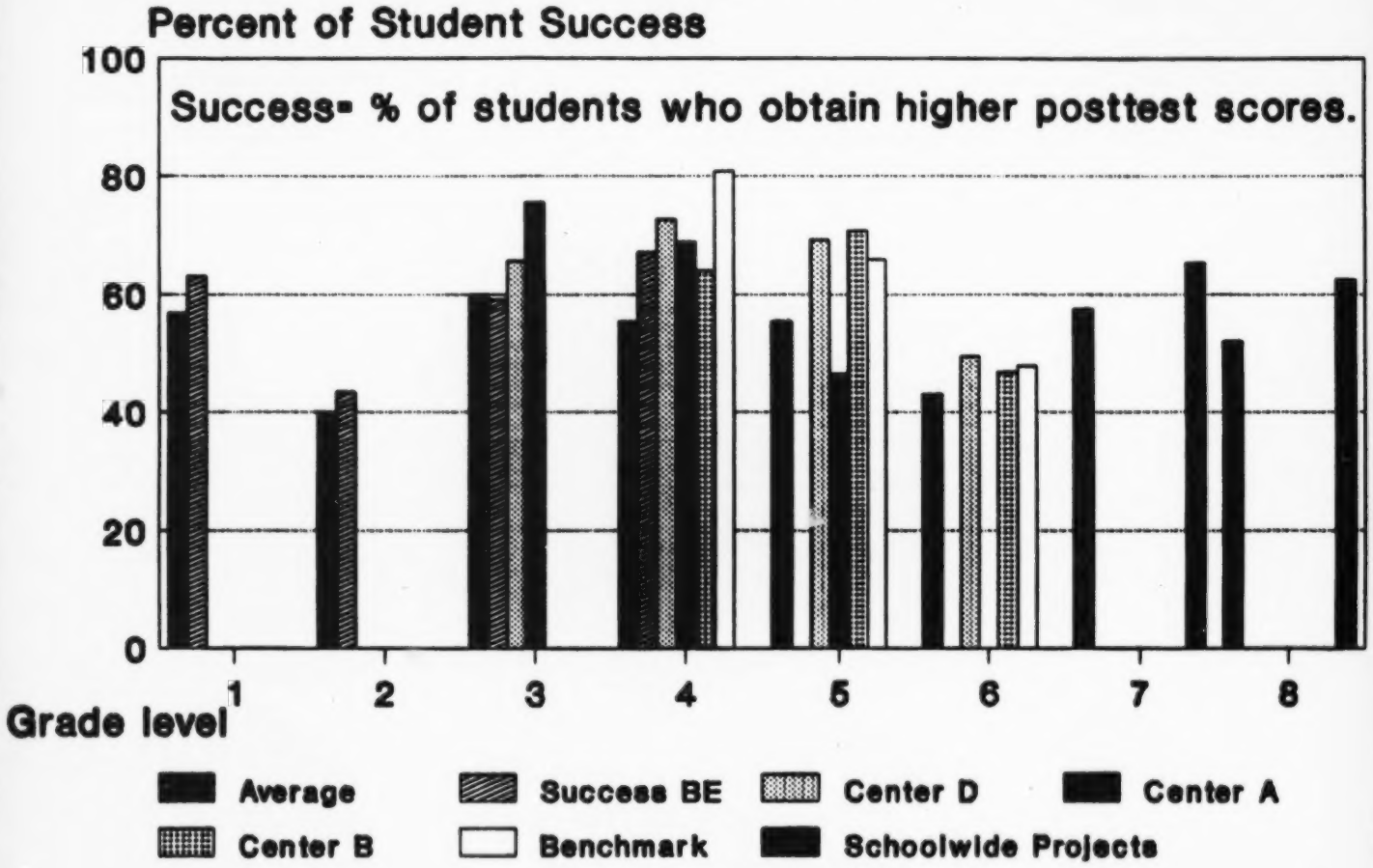


Figure 3

Mathematics Achievement Selected Chapter 1 Project 1987-88

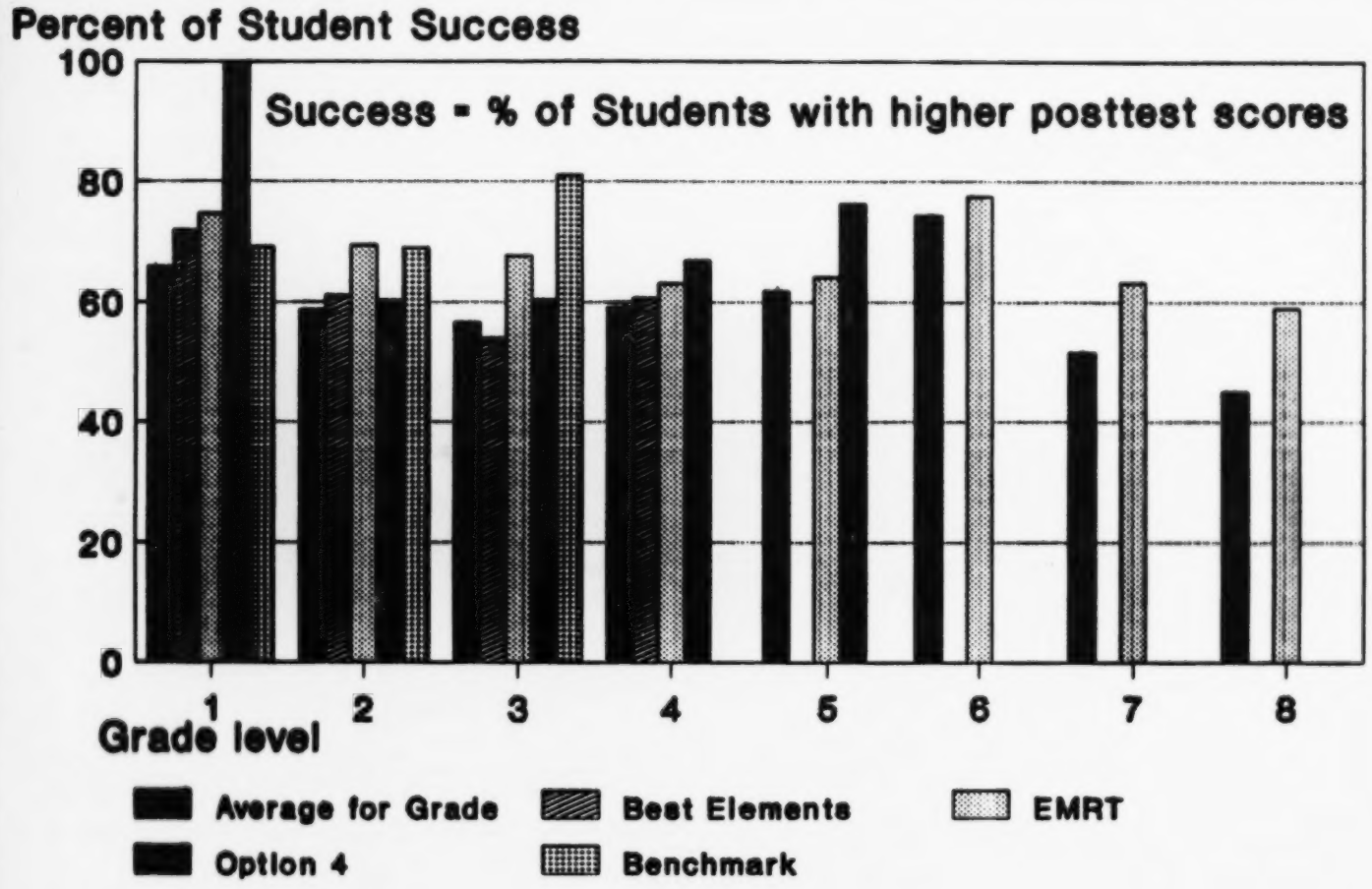


Figure 4

TABLE 5

REPLICATION OF 1986-1987 CHIERS FINDINGS

Service	Projects	Number of Comparisons	Superiority to Average 1986-87	1987-88	Findings Replicated
Reading	Benchmark	6	6	6	Yes
	*Option 4	12	11	5	No
Mathematics	Benchmark	6	4	6	Yes
	EMRT	16	16	16	Yes
	Jr/Middle	8	5	3	No
	*Option 4	12	11	11	Yes

Comparisons were made for each grade served on each criteria: (1) Size of average NCE gain (2) Percent of students with Positive NCE gains.

*Elementary grades 1-6 only.